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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/557,757	11/18/2005	Nicolaas Bernardus Roozen	PHNL030571US	1566

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CLEVELAND, OH 44143

EXAMINER
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VARGAS, DIXOMARA

ART UNIT	PAPER NUMBER
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2831

MAIL DATE	DELIVERY MODE
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09/19/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/557,757	<b>Applicant(s)</b> ROOZEN ET AL.	
	<b>Examiner</b> DIXOMARA VARGAS	<b>Art Unit</b> 2831	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-19 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 19 is/are rejected.
- 7) ☒ Claim(s) 5-18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

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### **DETAILED ACTION**

1. In view of the Remarks in the Appeal Brief filed on 06/30/08, PROSECUTION IS HEREBY REOPENED. See rejection set forth below. To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or, (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Diego Gutierrez/

Supervisory Patent Examiner, Art Unit 2831

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dean et al (US 6,414,489 B1) in view of Jacques Alphand (FR 2833278 A1).

With regard to claim 1, Dean discloses a magnetic resonance imaging (MRI) device (Figure 1A) comprising a diagnostic space (#32), a main magnetic system for generating a main magnetic field in said diagnostic space (#10), a gradient magnetic coil system comprising a gradient coil for generating at least one gradient of the main magnetic field (#18), and noise reducing means for reducing noise that is generated as a result of vibrations of the gradient coil, characterized in that the noise reducing means comprises a sound-absorbing panel disposed between the gradient coil and the diagnostic space (#30).

Furthermore, Dean discloses the claimed invention as stated above except for specifying the capability of the sound-absorbing panel to have channels having an open end and a closed end. However, Alphand discloses a sound-absorbing panel comprising channels having an open end and a closed end (Figures 1 and 3, panel #1 with channels #5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dean's sound absorbing panel of the MRI device to have channels having an open end and a closed end as taught by Alphand for the purpose of using an efficient structure to eliminate the noise created in the MRI system to comfort the patient and avoid blurring of the image.

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5. With regards to claim 2, Dean discloses the MRI device of claim 1, characterized in that the sound-absorbing panel has an absorption coefficient in the order of at least 0.5, more preferably in the order of at least 0.75 dB for at least part of the frequency range between 20 Hz and 4000 Hz (columns 3 and 4, lines 52 - 67 and 1 - 22, respectively).

6. With respect to claim 4, Dean discloses the MRI device of claim 1, characterized in that said channels extend at least substantially in a direction parallel to the direction between the diagnostic space and the gradient coil (Figures 1 and 2).

7. With respect to claim 15, Dean discloses the MRI device of claim 1, characterized in that the radio frequency transmission coil system comprises an electrically conductive winding which extends at least in part between at least some of the channels (Figure 1).

8. With respect to claim 16, Dean discloses the MRI device of claim 1, characterized in that the radio frequency transmission coil system comprises at least one electrically conductive layer, with which the sound-absorbing panel is coated on the side of the diagnostic space and which openings are present at the location of any open ends of the channels that may be present on the side of the diagnostic space (Figures 1 and 4).

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dean et al (US 6,414,489 B1) in view of Ham (US 6,628,117 B2).

With regard to claim 1, Dean discloses a magnetic resonance imaging (MRI) device (Figure 1A) comprising a diagnostic space (#32), a main magnetic system for generating a main magnetic field in said diagnostic space (#10), a gradient magnetic coil system comprising a gradient coil for generating at least one gradient of the main magnetic field (#18), and noise

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reducing means for reducing noise that is generated as a result of vibrations of the gradient coil, characterized in that the noise reducing means comprises a sound-absorbing panel disposed between the gradient coil and the diagnostic space (#30).

Furthermore, Dean discloses the claimed invention as stated above except for the sound-absorbing panel comprising glass wool. However, Ham discloses the sound-absorbing panel comprising glass wool (Column 3, lines 19-30). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the sound-absorbing panel comprising glass wool as taught by Ham with Dean's MRY system since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

#### *Allowable Subject Matter*

10. Claims 5-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

- a. With respect to claim 5, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the channels extend at least substantially in a direction parallel to the direction between the diagnostic space and the gradient coil in combination with the remaining limitations of claim 1 above.

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b. With respect to claim 6, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the open ends of at least some of the channels are present on the side of the associated channels that faces towards the diagnostic space in combination with the remaining limitations of claim 1 above.

c. With respect to claim 7, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising open ends of at least some of the channels are present on the side of the associated channels that faces towards the gradient coil in combination with the remaining limitations of claim 1 above.

d. With respect to claim 8, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the cross dimension of at least a part of the channels on the side of the associated open ends is maximally 15 mm, preferably maximally 10mm in combination with the remaining limitations of claim 1 above.

e. With respect to claim 9, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the cross dimension of at least a part of the channels on the side of the associated closed ends thereof is different from a cross dimension of the part of the channels on the side of the associated open ends in combination with the remaining limitations of claim 1 above.

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f. With respect to claim 10, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the cross dimension of the part of the channels on the side of the associated closed ends is larger than a cross dimension of the part of the channels present on the side of the associated open ends in combination with the remaining limitations of claim 9 above.

g. With respect to claim 11, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the proportion between the cross dimension of the part of the channels on the side of the associated closed ends and the cross dimension of the part of the channels on the side of the associated open ends is at least in the order of 2.5, preferably at least in the order of 4.0 in combination with the remaining limitations of claim 10.

h. With respect to claim 12, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the minimum spacing between adjacent channels at the location of the associated maximum cross dimension of the adjacent channels is maximally 50% of the sum of the associated maximum cross dimensions, preferably maximally 35% of the sum of the associated maximum cross dimensions in combination with the remaining limitations of claim 1 above.

i. With respect to claim 13, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance



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imaging (MRI) device comprising the dimensions of the channels of the sound absorbing channels of the sound absorbing panel are mutually different in combination with the remaining limitations of claim 1 above.

j. With respect to claim 14, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a MRI device comprising a sound absorbing panel provided with a radio frequency transmission coil system for generating and/or receiving a RF signal in the diagnostic space in combination with the remaining limitations of claim 1 above.

k. With respect to claim 15-16, the claims have been found allowable due to its dependency on claim 14 above.

l. With respect to claim 17, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the sound absorbing panel is built up of a number of abutting, preferably glued-together sub panels in combination with the remaining limitations of claim 1 above.

m. With respect to claim 18, the claim has been found allowable over the prior art of record because the prior art of record fails to teach or fairly suggest a magnetic resonance imaging (MRI) device comprising the sound absorbing panel is coated between the open ends with a sound-absorbing material having an absorption coefficient of at least 0.5 for at least part of the frequency range between 20Hz and 4000 Hz in combination with the remaining limitations of claim 1 above.

***Response to Arguments***

12. Applicant's arguments filed 06/30/08 have been fully considered but they are not persuasive.

13. Regarding claim 1, Applicant argues that one of ordinary skill in the art would not have been motivated to or find obvious to use a concrete sound absorbing damping panel as taught by Alphand within the MRI bore.

14. The examiner disagrees with applicant's argument since the rejection has been modify to clarify that the concrete absorbing panel is not substituting Dean's absorbing panel in the MRI structure and, instead is merely modifying the existing Dean's structure to have the channels as Alphand's panel. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Dean's panel to add channels to said panel for the purpose of using an efficient structure to eliminate the noise created in the MRI system to comfort the patient and avoid blurring of the image caused by the noise.

15. Regarding claim 4, Applicant argues that one of ordinary skill in the art would not have been motivated to or find obvious to combine Alphand and Dean since Dean is concerned about acoustic noise and Alphand is concerned about road noise.

16. The examiner disagrees with applicant's argument because even though both are concern about different types of noise, the concrete absorbing panel from Alphand is not substituting Dean's absorbing panel in the MRI structure and, instead is merely modifying the existing Dean's structure to have the channels as Alphand's panel to improve Dean's structure and not to change the type of noise being corrected.

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17. Applicant's arguments with respect to claims 14-16 have been considered but are moot in view that the 35 U.S.C. 103(a) rejections have been withdrawn and a new objection as being dependent upon a rejected base claim has been added.

18. Regarding claim 19, Applicant argues the following: "Although Ham does show that glass wool is a known material, Ham discloses that the noise-absorbing material 16 should be disposed not only outside the bore, but also outside of the main magnet and its cryostat ([0022]; Figure 3). Ham provides no motivation to put glass wool inside the bore, i.e., in the patient imaging region of a diagnostic scanner. Further, it is submitted that those of ordinary skill in the art would not be motivated to place glass wool close to patients. Glass wool tends to generate glass fiber dust which can lodge in the lungs and be highly injurious to a human which breathes such dust. When glass wool insulation is installed, the installer is strongly warned to wear a protective breathing mask, and use gloves.

19. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, it is to be noted that Dean's noise reducing means has been modified to change the material of the structure instead of the position of it. Also, it is pointed out that the claim language merely states using a sound absorbing panel wherein the material for it is glass wool, however it fails to indicate where is located. If applicant intends to also locate the absorbing panel inside the bore as disclosed in Figures 1-3, it is not clear from the specification of the current application how will the claimed invention prevent the fiber dust from getting into the examination area and injure the patient.

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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIXOMARA VARGAS whose telephone number is (571)272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dixomara Vargas/  
Primary Examiner,  
Art Unit 2831